

ABSTRACT

A decoder for use in a data communication system for decoding a stream of data which has been convolutionally and Reed-Solomon encoded is provided. The decoder has a trellis decoder for performing at least one iteration for decoding the stream of data. The Reed-Solomon decoder is provided for further decoding the encoded stream of data after the trellis decoder is stopped, the Reed-Solomon decoder including syndrome calculating means for calculating syndromes after each iteration of the trellis decoder. The decoder also includes control means for stopping the trellis decoder from performing another iteration when all of the syndromes calculated in the syndrome calculation means are zero.